

## ENVIRONMENTAL CHECKLIST

### A. BACKGROUND

1. Name of proposed project, if applicable: Willapa River Estuary Restoration Project
2. Name of applicant: Washington Department of Fish & Wildlife, Washington Department of Transportation, U. S Army Corps of Engineers, Natural Resource Conservation Service, Ducks Unlimited.
3. Address and phone number of applicant and contact person:  
Contact Person: Kevin Farrell  
Address: 48 Devonshire Road, Montesano, WA 98563  
Phone: (360) 753-2600 x241
4. Date checklist prepared: June 17, 2004
5. Agency requesting checklist: Washington Department of Fish & Wildlife
6. Proposed timing or schedule (including phasing, if applicable):  
PHASE 1: May 2005-October 2005 Grading, filling of ditches, construction of cross dikes, and pullout area construction. Highway 101-road raising. Freshwater habitat improvements.  
PHASE 2: May 2006-October 2006 Removal of levee and topping off new cross dikes

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No. Work is anticipated to take two construction seasons with work proposed to begin in May 2005.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

This checklist is the state environmental documentation for the proposed project. The U.S. Army Corps of Engineers is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA). The WSDOT has completed a wetland delineation on their right-of-way. The U.S. Natural Resources Conservation Service has completed an analysis of potential downstream contamination resulting from dike removal.

Concern over various aspects of the Willapa River Estuarine Restoration Project with regard to mosquito response and trajectories has been evident in public testimony as well as in letters submitted to the Army Corps of Engineers (Corps). In order to address the concerns related to mosquitoes a comprehensive review of available medical literature, technical journals and national surveillance data as it relates to mosquito-borne viruses, mosquito control methods, and mosquitoes life histories in general was conducted by the Washington Department of Fish and Wildlife (WDFW 2003 - available upon request from the Washington Department of Fish & Wildlife (360-902-2946). This "white paper" was provided to interested parties at a public meeting held at the South Bend Community Center in South Bend on November 17th, 2003. This review found that tidal inundation is used as a mosquito control method at locations around the world, including here in the United States. The proposed project outlined in this SEPA checklist will restore tidal inundation (Open Marsh Water Management) to 300-acres. Open Marsh Water Management (OMWM) was developed and adopted in New Jersey in the late 1950's and is an extremely effective mosquito control technique. Open Marsh Water Management (OMWM) has shown effective reductions ranging 75% to 99% (Hruby et al. 1985). State of Delaware Mosquito Control Section reports 95-98% reduction while the Northeast Massachusetts Mosquito Control and Wetland Management District report a 97% reduction in mosquitoes using OMWM. We anticipate mosquito reductions on the acreage being restored to tidal inundation. To further understand the response of mosquitoes to implementation of the project, Battelle Laboratory will complete an independent study of potential mosquito response to habitat modifications associated with implementation of the project as outlined in this environmental checklist.

Additionally, a variety of hydrologic and engineering studies were conducted to provide data needed to design the scope of the project. Much of the information used during the development of this restoration plan was obtained from the following studies and reports developed by the inter-agency team:

*The Tide Marsh Restoration and US Highway 101 Improvement Hydrologic and Hydraulic Analysis* prepared by Herrera Environmental Consultants in association with Philip Williams & Associates, Ltd. and Battelle Marine Sciences Laboratory (February 2002)

Mosquitoes of Pacific County: West Nile Virus and the Interactive Role of Salt Marsh Restoration on the Population Status of *Aedes dorsalis* (November 2003)

Open marsh water management in Massachusetts: adapting to local conditions and its impact on mosquito larvae during the first season. *Journal of the American Mosquito Control Association* 1:85-88 (Hruby et al. 1985)

*Potters Slough Additional Hydrodynamic Modeling* prepared by Philip Williams & Associates, Ltd. (October 2001)

*Tide Marsh Restoration and US Highway 101 Improvement Hydrologic and Hydraulic Analysis*

*The Analysis of Potential Downstream Contamination Resulting from Dike Removal for Restoration* report prepared by Batelle Pacific Northwest Division (Diefenderfer and Ward 2002).

WSDOT Wetland Delineation (Null 2002).

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No

10. List any government approvals or permits that will be needed for your proposal, if known.

Hydraulic Permit Approval

Department of the Army Permit

401 Water Quality Certification

Coastal Zone Consistency Statement

National Environmental Policy Act Findings of No Significant Impact

National Historic Preservation Act, Section 106 Consultation

Endangered Species Act, Section 7 Consultation

Pacific County Substantial Development Permit

Pacific County Zoning Checklist

Pacific County Critical Areas Assessment

Pacific County Critical Areas Checklist

There will be additional opportunities for the public and/or government officials to comment on this project through the above mentioned permitting processes.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

This is a fish, wildlife, and habitat restoration project that will be self-mitigating. The proposed project has been significantly modified from the original version due to concerns of local citizens and public officials. The project outlined in this SEPA Environmental Checklist reflects the changes made to the project scope. The 422-acre proposed project will restore tidal inundation to approximately 300 acres of diked pastureland adjacent to the Willapa River. These lands have been diked for the past 90-years. Actions will also be taken to enhance approximately 122 acres of freshwater wetlands to offset the loss of freshwater habitat that will occur when the adjoining area is restored to estuarine habitat. Removing approximately 10,000 lineal feet of dikes would restore tidal influence. Dike material would be used to

backfill the borrow ditches adjacent to the dikes. Farm drainage ditches and borrow ditches along US101 would also be filled. Remnant tidal channels would be excavated to restore natural tidal hydrology. One cross dike would be constructed to prevent tidal inundation of neighboring properties. Most of the earthwork would occur during the dry summer months, prior to the dike removal. This project would be constructed over the course of two summers, 2005 and 2006.

There are eight components of this project. They are:

1. Excavation of remnant tidal channels
2. Filling of drainage ditches and borrow areas
3. Construction of a cross dike
4. Removal of the existing dike along the Willapa River
5. Construction of a Highway 101 pullout
6. Raising of highway US 101
7. Installation of water conveyance structures
8. Freshwater habitat improvements (WRP Easement Sites 1 & 2)

Each of these actions is described in more detail below.

**Table 1 - Excavation of remnant tidal channels**

| <b>Tidal Channel Excavation</b> |                        |                   |
|---------------------------------|------------------------|-------------------|
| <b>Project Element</b>          | <b>Excavation (cy)</b> | <b>Fill* (cy)</b> |
| Tidal Channel 1                 | 6,200                  | 4                 |
| Tidal Channel 2                 | 4,200                  | 6                 |
| Tidal Channel 5                 | 8,600                  | 4                 |
| Tidal Channel 7                 | 500                    | 6                 |
| Tidal Channel 8                 | 3,700                  | 4                 |
| Totals                          | 23,200                 | 24                |

\*rock to form "non-erodible plugs which will protect the channel from enlarging into the US 101 roadbed.

Five of eight primary remnant channels and five secondary channels (those branching off the main or primary channels) evident in historical aerial photographs of the project site will be restored to allow for natural tidal hydrology and fish access to the interior of the site. Excavation of remnant channels will take place inside the existing dike on that portion of the property on the river side of US 101. Primary channels totaling 8,500+ feet in length, and five secondary channels totaling 2,400+ feet in length will be excavated. Approximately 23,200 cy of material will be excavated. Channel grading will follow the alignments of historic remnant tidal channels. Excavators will be used to remove blockages within the channel alignments, provide grade control, and connect the channels to the river. In most cases, only a portion of the total length of the remnant channels will be excavated. The excavated material will be hauled on-site with dump trucks and used to fill existing drainage ditches.

#### **Filling of drainage ditches and borrow areas**

Several drainage ditches and US 101 borrow areas will be filled in order to restore natural tidal hydrology, eliminate mosquito breeding areas, and prevent fish stranding once the dike is removed. Borrow ditch fill is necessary to ensure that tidal waters scour complex tidal channels, rather than pond and potentially trap fish. General site grading to eliminate existing swales that could prevent restoration of natural tidal hydrology will also occur. A vibratory roller may be used to compact the material. 3,800 cy of fill will be placed within the riverside borrow ditch, while approximately 4,300 cy will be placed within the inland side of the highway borrow ditch (8,100 cy total). 7,408 cy of fill will be placed in farm drainage ditches. Fill material will be obtained from the excavation of remnant channels. Approximately 2.56 acres of wetlands will be impacted by the filling of highway borrows ditches. The fill will be moved on-site via dump trucks and will be spread with a bulldozer.

#### **Construction of a cross dike**

Construction of a new ~1,400 foot long cross dike along the downstream boundary of the project site will prevent flooding of adjacent properties when the dike along the Willapa River is removed to restore tidal hydrology. The dike will be constructed of imported fill material hauled to the site in dump trucks via US 101. Construction access will occur along a driveway adjacent to the dike alignment. The material will be

spread by bulldozer and compacted by vibratory roller. Due to expected settlement of the dike, it will be topped off in the second construction season. Topsoil and seed will be placed on the finished dike. This work would require the stripping of 1,391 cy of vegetation and the importation of approximately 5,178 cy of fill material.

### **Removal of existing dike**

Approximately 10,621 linear feet of dike along the Willapa River will be excavated down to the elevation of the mudflat fronting the dike. Inlets for each of the 5 primary channels in the mudflat on the riverside of the existing dike will also be excavated. Removal of the dike will result in the inundation of approximately 300 acres of WDFW property on the northeast (river) side of US 101. Approximately 45,776 cubic yards of material would be excavated from the old dike and will be placed in the borrow ditch directly adjacent to the dike. An additional 5,641 cy will be obtained from other areas within the project area to complete filling of dike borrow ditch. It is anticipated that all excavated dike material will be utilized to fill the borrow ditch. The initial excavation effort will open the remnant channels to the river, which will also provide drainage for the borrow ditch and an escape route for any fish which have accessed the site during construction activities. An excavator situated on top of the dike will move the material. Each work area will be enclosed with a silt curtain. Due to the depth of the old borrow ditch, it is not possible to avoid placing material in the ditch while water is in the ditch. It is anticipated that work will occur at more than one site on the dike in order to expedite the work.

### **Construction of Highway pullout**

Construction of a 0.30-acre highway pullout will provide public access for education opportunities and wildlife oriented recreation. The turnout would provide safe access to parking on the northeasterly side of the US 101. The pullout will be located on an existing elevated pad, where a recently demolished residence was located, so it will require no wetland fill. The parking surface will be at the roadway elevation. This feature will require placement of about 2050 cy of fill plus about 100 cy of asphalt. Fill will consist of variable depths (4 to 5.5 feet) of crushed borrow capped with approximately 0.6 surfacing and asphalt materials. The parking area will be approximately 15,000 square feet in size.

### **Raising of highway US 101**

Approximately 1.22 miles of US 101, between MP 51.29 to 52.51, will be raised to an elevation of 15.5 feet to prevent the highway from flooding once the site is opened to inundation of tidal waters. This elevation is one foot higher than the 100-year flood event. The highway raising will require about 97,000 cy of imported fill, of which 29,540 cy will be placed in wetlands. Imported fill will be obtained from the WSDOT approved Bone River Borrow site located within DOT Right of way along US 101 MP (vicinity of MP 45.14). Approximately 4.38 acres of wetlands will be impacted by the increased size of the road prism. The new road grade is designed to meet WSDOT requirements for safety. The design does accommodate the fact that the road embankment on one side will be inundated by the tide. If funds allow, WSDOT will also be raising the profile of US 101 from MP 52.67 to MP 52.79 to fix an isolated low area that has had water over the roadway in the past.

### **Installation of water conveyance structures**

Two new 36-inch culverts with tide gates will be installed to convey water from the freshwater side of the highway to the saltwater side. Towards the south end of the project, WSDOT will also be replacing an existing 40- inch culvert with tide gate that is in poor condition with a new 30-inch culvert and tide gate. All new culverts will have a quarry spalls or light loose riprap rock pads installed at the outlet to help prevent scour. One existing 30-inch cross culvert at the south end of the project site will be plugged. A light loose riprap pad (approximately 10 cy of material) will be placed at the outlet of the replacement culvert, which will impact up to 225 square feet or 0.005 acre of wetlands.

### **Freshwater Habitat Improvements**

The U.S Natural Resources Conservation Service (NRCS) and Ducks Unlimited will design and construct freshwater habitat improvements within two Wetland Reserve Program (WRP) properties, identified here as WRP Easement Site 1 and WRP Easement Site 2, respectively.

#### **NRCS WRP Easement Site 1 -**

NRCS and Ducks Unlimited will design and construct three freshwater wetland cells and six amphibian ponds in the portion of the project between US 101 and the hillside to the west. This area is currently

drained to the southeast by a large ditch and tidegate to Potter Slough. Six amphibian ponds, ranging in size from 0.08 acres to 0.29 acre will be distributed throughout the 100-acre parcel. Total area of these ponds will be approximately 1 acre. Additionally, three wetland cells totaling approximately 60 acres will be constructed. These freshwater wetland cells will help offset the loss of freshwater habitat that will occur when the remainder of project area is restored to estuary. Wetland cells will have the following elements: levee construction, borrow areas (ponds), swale enhancement, amphibian ponds and water control structures.

Specifically, Wetland Cell 1 will enhance approximately 22 acres of freshwater habitat through the construction of a levee on the west side (landward) of the unit. The east boundary is currently a drainage ditch adjacent to Highway 101. This ditch will be filled using excavated material. Highway 101 will then serve as the eastern boundary of the wetland cell. Within this unit, wetland swales will be constructed. An existing culvert will be removed. The wetland swale will be connected to a water control structure, which will be installed on the north end of the new levee. The water control structure will be used to retain fresh water in the slough and wetland area, providing seasonal or semi-permanent hydrology. The structure will provide an opportunity for moist soil management to maintain the optimum plant community. An additional swale will connect the structure to a drainage ditch, which will connect to a new culvert with tidegate under Highway 101. Amphibian ponds will be created between the new levee and hillside, in low-lying areas.

Wetland Cell 2 will enhance approximately 21 acres of wetland habitat through the construction of a levee on the west side (landward) of the unit, interior to a currently existing swale. The east boundary is currently a drainage ditch adjacent to Highway 101. This ditch will be filled with excavated material and the Highway 101 will again serve as the eastern boundary of the wetland cell. Within this unit wetland swales will be constructed which will be connected to a water control structure, which will be installed on the south end of the new levee. A swale will connect the structure to a drainage ditch (same one as Wetland Cell 1), which will then connect to a new culvert with tidegate under Highway 101. At the north end of this pond a new culvert with tidegate will be placed under Highway 101 to reconnect remnant channels. Amphibian ponds will be created between the new levee and hillside, in low-lying areas.

Wetland Cell 3 will enhance approximately 17 acres of wetland habitat through the construction of a levee around the entire unit. The east boundary is currently a drainage ditch adjacent to Highway 101. This ditch will be filled with material excavated on-site and a new ditch with culvert and ditch crossing will be created which will allow drainage to a new culvert with tidegate system under Highway 101 (same as Wetland Cells 1 & 2) Within this unit wetland swales will be constructed which will be connected to a water control structure, which will be installed on the south end of the new levee. This structure will be connected to a remnant channel between Pond 3 and Pond 2. Amphibian ponds will be created between the new levee and hillside, in low-lying areas. The water control structure will be used to retain fresh water in the slough and wetland area, providing seasonal or semi-permanent hydrology.

Levees will occupy approximately 9 acres of Site 1. Levee construction will require stripping of approximately 7,330 cy of organic material and the placement/compaction of approximately 34,400 cy of fill material obtained through on-site excavation of the wetland cells. Organic material being stripped consists mainly of non-native pasture grass and small groups of willow. There are no significant trees (dbh > 12") within the area. Any remaining borrow material will be spread throughout the site to provide additional micro-topographic features.

Ten swales will be excavated to allow for efficient and proper distribution of fresh water. This will require stripping of 3,330 cy of vegetation and the excavation of 7810 cy of organic material. The swales will occupy approximately 3 acres.

#### NRCS WRP Easement Site 2 -

To facilitate the management of 22 acres for freshwater waterfowl habitat, water conveyance structures will be installed and grading work performed. The location of this property is directly downstream from the estuarine portion of the habitat restoration project site.

Four swales will be excavated to allow for efficient and proper distribution of fresh water. This will require stripping of 5,135 cy of vegetation and the excavation of 6,432 cy of soils. The swales will occupy

approximately 6.38 acres. Existing swales and shallow depressions will be enhanced to allow for more open freshwater habitat.

Habitat mounds, adjacent to the open water areas, will mimic the natural landscape and will serve to provide higher ground and to direct water flow during flood conditions. The water conveyance structure will be used to retain freshwater in the old remnant slough and four adjoining swales, providing seasonal or semi-permanent hydrology. The structure will provide the opportunity for moist soil management in the swales to maintain the optimum plant community for waterfowl and shorebird habitat.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project area is located on the left bank of the Willapa River approximately one mile downstream of the City of South Bend in Pacific County, Washington (T14N R09W Sections 17, 18, 19, 20). The project is located at US101 milepost 50.8 to milepost 52.56.

B. ENVIRONMENTAL ELEMENTS (note for text file version: in this version, the column on the right side of the form for lead agency review is missing. The column headings should read "TO BE COMPLETED BY APPLICANT" for the text on the left side of the page and "EVALUATION FOR AGENCY USE ONLY" for a blank column on the right side of the page.)

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other -Flat

b. What is the steepest slope on the site (approximate percent slope)? <1%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Ocosta silty clay loam

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.-NO

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed.

Indicate source of fill.

**Table 2. First Construction Season Cut and Fill Quantities and Affected Areas**

| Project Element                    | Excavation (cy) | Fill (cy)  | Wetland Footprint (acres) |
|------------------------------------|-----------------|------------|---------------------------|
| Tidal channels                     | 23,200          |            | 4.33                      |
| Farm Drainage ditches              |                 | 7,408      | 4.54                      |
| Highway borrow ditches             |                 | 8,100      | 2.56                      |
| Cross dike                         | 1,391           | 5,178*     | 1.14                      |
| Highway pull-out                   |                 | 2,050*     | No wetland Footprint      |
| Highway raising                    |                 | 29,540* ** | 4.38                      |
| Stone for non-erodible plugs       |                 | 24*        | Included in Ditch Fill    |
| Stone for culvert scour protection |                 | 70*        | Included in Ditch Fill    |
| WRP Site 1 Swales                  | 11,140          |            | 3.09                      |
| WRP Site 1 Freshwater Improvements | 45,850          |            | 11.2                      |
| WRP Site 1 Levees                  | 7,330           | 34,400     | 9.09                      |
| WRP Site 2 Swales                  | 11,567          |            | 6.38                      |
| WRP Site 2 Islands                 |                 | 5,300      | 2.53                      |

\* Imported fill; all other fill generated from on-site excavation.

\*\* An additional 67,460 cy of imported material will be required to raise the highway, however, due to elevations where material will be placed it will not be wetland fill

Fill material will primarily come from onsite material. Extra material needed will come from a local source.

**Table 3. Second Construction Season Cut and Fill Quantities and Affected Areas**

| Project Element   | Excavation (cy) | Fill (cy) | Wetland Footprint* |
|-------------------|-----------------|-----------|--------------------|
| Dike removal      | 45,776          |           | 10.38              |
| Borrow ditch fill |                 | 51,417    | 10.38              |

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, but it would be minor and localized to the immediate work area. In phase 1, very minor erosion may occur because of construction sequence and timing. New levee and fill slopes will be stabilized by compaction and reseeded. In phase 2, construction and dike removal will occur in compliance with ESA consultation and during low tide to minimize potential sedimentation impacts.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

There will be an increase of approximately 1-acre of impervious surface (asphalt), which is an increase of 0.2% over the entire project area.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

The following Best Management Practices (BMP's) may be included as necessary at site-specific locations within the project:

- BMP E1.10 – Temporary Seeding of Stripped Areas
- BMP E1.15 – Mulching and Matting
- BMP E1.20 – Plastic Covering
- BMP E1.25 – Preserving Vegetation
- BMP E1.30 – Buffer Zones
- BMP E1.35 – Permanent Seeding and Planting
- BMP E2.10 – Stabilized Construction Entrance and Tire Wash
- BMP E2.15 – Construction Road Stabilization
- BMP E2.20 – Dust Control
- BMP E2.25 – Pipe Slope Drains
- BMP E3.10 – Filter Fence
- BMP E3.15 – Straw Bale Barrier

Construction sequence will occur by completing the majority of grading and filling inside the river levee the summer before the levee is removed. This will allow vegetation on the new cross levee and slopes to grow and reduce potential for erosion impacts. On the cross levee the exposed soils above elevation 10+ will be reseeded with native mixed grass seed (*Agrostis spp.*). Exposed soils on levee slopes between 8+ and 10+ elevation will be reseeded with tufted hairgrass (*Deschampsia cespitosa*).

To reduce erosion, the levee will be removed during the summer months while there are drier conditions. In addition, work will take place during lower tides. This will reduce potential water quality impacts. A silt curtain will be placed adjacent to Potter Slough to reduce the potential of increased turbidity.

## 2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Temporary diesel emissions from heavy equipment. Dust from grading and levee removal.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Emission control devices are required on construction equipment. Equipment will be shut down when not being used.

## 3. Water

**Table 4. Delineated Wetlands on the Project Site**

|           | <b>Estimated Acreage</b> | <b>Cowardin Class</b>                           | <b>Ecology Rating</b> | <b>Pacific Co. Rating</b> |
|-----------|--------------------------|-------------------------------------------------|-----------------------|---------------------------|
| Wetland A | 100+ acres               | Palustrine Aquatic Bed/<br>Emergent/Scrub-Shrub | Category II           | Class II                  |
| Wetland B | ~ 1 acre                 | Palustrine Emergent                             | Category III          | Class III                 |
| Wetland C | 0.5 – 1 acre             | Palustrine Emergent                             | Category III          | Class III                 |
| Wetland D | 20+ acres                | Palustrine Emergent/Scrub-Shrub                 | Category III          | Class III                 |
| Wetland E | 100+ acres               | Palustrine Emergent/Scrub-Shrub/Forested        | Category II           | Class II                  |
| Wetland F | 200+ acres               | Palustrine Emergent/Scrub-Shrub                 | Category II           | Class II                  |

Source: March 2002 WSDOT wetland delineation (Null 2002).

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, the Willapa River and Potter Slough are both in the vicinity of the project. The Willapa River flows into Willapa Bay.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes. The project will take place within 200-feet of describes waters. Phase 1 will not take place in described water. Phase 2 (dike removal), will occur adjacent to the Willapa River. Construction will occur during low tide within the fish construction window. Plans have been attached as an addendum.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Quantities are the same as B.1.e; source of fill is primarily on-site excavation; areas affected are shown on proposed plan view drawing (primarily channel excavation and ditch fills).



4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

Borrow ditches may need to be dewatered prior to filling. If water is withdrawn, it will be pumped out into pasture. Quantities will be dependent on rainfall at the time of construction.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Yes, the project is located within the 100-year floodplain of the Willapa River.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

### 3. WATER

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals\_\_\_\_\_ ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not applicable. No waste disposal systems will be effected.

### 3. WATER

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Very small amount of runoff from project. Estuary will infiltrate and absorb water. No extra runoff from post construction project site.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Yes, but highly unlikely. In the event of an accidental spill during construction, measures will be taken to protect surface water quality. Ground water is unlikely to be affected.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Native vegetation will be planted on slopes of levee and pull-off area. Silt curtains will be employed throughout the project area during construction activities.

### 4. Plants

a. Check or circle types of vegetation found on the site:

X deciduous tree: alder, maple, cottonwood

X evergreen tree: sitka spruce, cedar, hemlock

X shrubs: salmonberry, blackberry, vine maple, western swordfern

X grass

X pasture

X wet soil plants: cattail, buttercup, bullrush, skunk cabbage, rushes, reed canary grass

b. What kind and amount of vegetation will be removed or altered?

Freshwater vegetation will be converted to salt tolerant vegetation such as tufted-hair grass, lyngby sedge, and pickleweed.

c. List threatened or endangered species known to be on or near the site.

None

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Project will create salt marsh wetlands by altering site hydrology and dike removal. Disturbed soils along new dikes and road will be reseeded with an acclimated grass species.

## 5. Animals

a. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site:

X birds: hawk, heron, eagle, songbirds, waterfowl and shorebirds

X mammals: deer, bear, elk, beaver, rodents

X fish: salmon, trout, herring, shellfish

b. List any threatened or endangered species known to be on or near the site.

The Bald Eagle

c. Is the site part of a migration route? If so, explain.

The Willapa River supports anadromous fish that migrate upstream to the Pacific Ocean. The Washington Coast is part of the Pacific Flyway and used by many migratory bird species. Waterfowl and shorebirds use this site as a wintering area.

d. Proposed measures to preserve or enhance wildlife, if any:

This project is a **fish, wildlife, and habitat restoration project**. The conversion of pasture to an estuary will improve the quality of wetland habitat, increase fish rearing capacity, and improve the water quality of the Willapa River.

## 6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The source of energy for this project will be from the combustion of fossil fuels (diesel) to power heavy equipment and trucks.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Minimize haul distances. Shut off equipment when not being used.

## 7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, which could occur as a result of this proposal?

If so, describe.

Yes. There is a remote risk of spills whenever the project requires the use of heavy equipment.

1) Describe special emergency services that might be required.

Fire, Police, or Spill Response Teams (Ecology, WDFW)

2) Proposed measures to reduce or control environmental health hazards, if any:

Pre-construction safety meeting with all contractors. Practice safety precautions when operating equipment of handling fuels. Spill control booms kept on site in case of emergency. Vehicles will have radio contact with emergency dispatch personnel.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Heavy equipment will generate noise during construction. However, it is likely that excavators and trucks being used on site will not increase ambient noise levels significantly due to current highway traffic and the vicinity of the project location to the airport. Any noise effects will be short term in duration.

3) Proposed measures to reduce or control noise impacts, if any:

None

8. Land and shoreline use

a. What is the current use of the site and adjacent properties?

Current use of project site is idle pasture. Adjacent properties are used for either cattle grazing or timber production.

b. Has the site been used for agriculture? If so, describe.

Yes, cattle grazing.

c. Describe any structures on the site.

No existing buildings on site. One tidegate, which will be replaced.

d. Will any structures be demolished? If so, what?

Not applicable.

e. What is the current zoning classification of the site?

Agriculture

f. What is the current comprehensive plan designation of the site?

The current designation is "Resource Land – Transitional Forest". County has not delineated all wetlands throughout the County. This project is consistent with the Comprehensive Plan, protecting fish and wetland habitat.

g. If applicable, what is the current shoreline master program designation of the site?

County designation of site is: Rural on majority of project area (pasture); Conservancy from outer levee to ordinary high water line; Urban on WSDOT right of way.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No

i. Approximately how many people would reside or work in the completed project?

None

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project is consistent with the goals of the Comprehensive Plan. The project will protect fish and wildlife habitat and restore lost fish habitat (Policy R-10.3 and Goal R-10). The restoration project will protect wetlands (Goal R-6). The activities allowed on the project area are consistent with species located there, and in accordance with state and federal regulations (Policy R-10.6). This includes allowing low impact recreation.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Not applicable

c. Proposed measures to reduce or control housing impacts, if any:

None

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Not applicable

b. What views in the immediate vicinity would be altered or obstructed?

None

c. Proposed measures to reduce or control aesthetic impacts, if any:

None

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None

d. Proposed measures to reduce or control light and glare impacts, if any:

None

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Informal recreational opportunities include hunting, fishing, wildlife viewing, boating, hiking, and other outdoor activities.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No, the project will increase these activities by allowing public access on the project area.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None. The project will increase shorebird and fish habitat and will expand recreational opportunities in the area.

13. Historic and cultural preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None

c. Proposed measures to reduce or control impacts, if any:

The U.S Army Corps of Engineers has developed a Memorandum of Agreement with the State Historic Preservation Office, the Shoalwater Tribe, and the Chehalis Tribe covering archaeological monitoring of the construction site and procedures to be implemented in the event of inadvertent discovery of potential cultural or historic artifacts during earthwork.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The site is served directly by US101.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No. The City of South Bend is located ~ two-miles to the south.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Five parking spaces will be constructed at the US101 pullout. The project would not eliminate any parking spaces.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

This project will require improvements to US101.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The project proposes no new roads, buildings or development. However, a highway pull off will generate a minimal amount of additional traffic.

g. Proposed measures to reduce or control transportation impacts, if any:

Lane closures and traffic delays are expected to occur as a result of the proposed restoration activities.

Traffic control will be coordinated through the Washington Department of Transportation.

15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe. -

No, unless and unlikely accident occurs.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Maintain safety on the project to reduce the risk of an accident.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity, which might be needed.

None

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Original Signed by Kevin Farrell

Date Submitted: 6/22/2004